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Part number for this operation manual: 62-78-0001 Rev D
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Important Information

Safety Symbols

**DANGER**
*Indicates an imminently hazardous situation that will result in serious or fatal injury. This symbol is used only in the most extreme conditions.*

**WARNING**
*Indicates a potentially hazardous situation that could result in serious injury.*

**Caution**
*Indicates a potentially hazardous situation that may result in minor or moderate injury. It may also be used to alert against unsafe practices.*

**Equipment Alert**
*Indicates a potentially hazardous situation that could result in equipment damage.*
**Physician’s Responsibility**

When enabled, instruments that run through the IQmanager® software can provide interpretations; these interpretations are for the exclusive use of licensed Physicians or personnel under their direct supervision. The suggested interpretation and the numerical and graphical results should be examined with respect to the patient’s overall clinical condition.

Final analysis should always be determined and verified by a Physician. Proper administration of the test is the Physician's responsibility, as is making a diagnosis, obtaining expert opinions on the results, and implementing the correct treatment, if indicated.

**Related Documents**

- Midmark IQecg® Operation Manual  
  (Part Number: 48-78-0002)
- Midmark IQspiro® Operation Manual  
  (Part Number: 3-100-1120)
  (Part Number: 39-78-0001)
- Midmark IQvitals® Operation Manual  
  (Part Number: 21-78-0001)
- Setup Manual: Midmark Products over Thin Client using IQpath™ or COM port mapping  
  (Part Number: 61-78-0001)

All documents referenced above are located on the Midmark Operation Manuals CD (part number: 3-100-2000), included with every device. All product Operation Manuals can also be downloaded from midmark.com. For additional information, contact Midmark Technical Service at 1-844-856-1230, option 2.
Overview

Introduction

This Operation Manual is designed as a comprehensive guide to educate the user on the operation and functions of the IQmanager®. IQmanager® Diagnostic Workstation Software serves as a patient data management utility, organizing all tests performed using Midmark digital diagnostic devices, including IQecg®, IQholter®, IQspiro®, and IQvitals®. This software also organizes and stores digital information captured via digital, electronic weight scales.

Note

For specifications and operational information on Midmark devices, including IQecg®, IQholter®, IQspiro®, and IQvitals®, please refer to the respective Operation Manuals for each device. See “Related Documents”.
**Computer Date Information**

IQmanager® calculates the patient’s age by using the current date from the computer and the patient’s birth date as entered by the operator. Since the patient’s age is vital to producing appropriate diagnostic statements, it is important that the computer’s date is accurate. Contact the system administrator for assistance with this function.

**Necessary Computer Skills**

This Operation Manual is written for a user capable of using Microsoft® Windows®-based applications, has some understanding of PC operations, and is familiar with the basic operations of Windows®.

For technical questions, please contact Midmark Technical Service at (800) 624-8950 or (844) 856-1230, option 2. A self-help web-based portal is also available at kb.midmark.com.

**Technical Overview**

**Standalone and Client/Server Setups**

The IQmanager® software requires a database, license management software (IQlicense®), and a location to store reports to operate. This section will explain how best to deploy the IQmanager® software in your organization.

**Choosing Between Standalone and Client/Server Setups**

When first deploying the IQmanager® software, you will need to determine how it will be installed across your organization. If you will only have one computer that the test data will be acquired and edited from, you will install IQmanager® as Standalone software where the database, license management software, and the location to store the reports are all located on that one computer.

![Standalone Setup Diagram]

If test data will be acquired and edited from multiple computers, you will set IQmanager® up as a Client/Server model. IQmanager® will be required on each computer that will access data, either by acquiring the data or viewing/editing the data (client). In addition, a database (SQL express is included in this installation) is required to be accessible on the network, along with the licensing management software, and a location to store the reports.
**Note**

It is recommended to only have one database, one instance of the license management software, and one location to store the reports; these should not be installed on every computer with IQmanager.

**Note**

When choosing a location to store the reports on the network, ensure every computer points to that location using the same exact path. For example, if the location is `\Computer1\reports`, ensure IQmanager® on Computer2 uses `\Computer1\reports` and if IQmanager® is also installed on Computer1 the path used is still `\Computer1\reports` and not a local path like `C:\reports`.

**Note**

The location to store the reports should have full access for those users who need to acquire and edit data. See [Working with Peer-to-Peer Networks](#), for details.

Typically in a Client/Server model, the database, report storage location, and license management software will be hosted on one computer in the network. This computer will always need to be on when using IQmanager®. This can be a dedicated Windows Server or one of the acquisition computers that you acquire/access data from. If the database, report storage, and license management software is installed on one of the acquisition stations, then that computer is both a client and the server. For the remainder of the manual, client will be used to designate any computer with IQmanager® installed on it and server will designate any computer that has the database, report location, and license management software, but in your setup this might mean the same computer.
**Thin Client Configuration**

If you are operating in a thin client environment, install IQmanager® on the Terminal Server and operate the Midmark devices through a thin client terminal.

IQmanager® supports two thin client configurations: IQpath™ Software Solution and COM port mapping. IQpath™ works with the Midmark ECG, Midmark Spirometer, and Vital Signs devices in high-latency, limited bandwidth network configurations with Windows-based PC clients.

**Note**

*Setting up any application in a network environment typically requires special access rights and knowledge of the network. Please have the system administrator install and configure the IQmanager® to the office environment.*

**Thin Client Using IQpath™ Software Solution**

IQpath™ utilizes a dedicated flow control scheme to provide the following advantages over COM port mapping:

- Improved operation over high-latency, low bandwidth, high-loss networks:
  - Microsoft Terminal Services: Improvement is approximately 10 to 1 in latency tolerance.
  - VMware VDI: Improvement is approximately 10 to 1 in latency tolerance.
  - Citrix® ICA® protocol: Improvement is approximately 40 to 1 in latency tolerance.
- No COM port mapping is required.
- The USB versions of IQecg®, IQspiro®, IQvitals® and IQvitals® Zone™ devices are compatible.
- The BLE versions of IQvitals® Zone™ devices are compatible.
- Improved device auto-configuration and diagnostics.

**Note**

*IQpath™ has specific requirements for computer hardware, software, and network performance. System administrators should read Setup Manual: Midmark Products over Thin Client using IQpath™ or COM port mapping before installing, configuring, and using this software in a thin client environment.*

"Figure 1" below illustrates IQpath™. In this thin client environment, the client computers must be running a compatible version of Windows®:

![Figure 1](image-url)
To use IQpath™, load IQmanager® on the terminal server and install one of the following software components on each client computer intended to be used for data acquisition:

- **IQpath™ for Microsoft Terminal Services**: if using Microsoft Terminal Services (Microsoft RDP).
- **IQpath™ for Citrix ICA**: if using Citrix® software on the clients and servers.
- **IQpath™ for VMware**: if using VMware VDI software on the clients and servers.

These software products are provided separately, and may be obtained by contacting Midmark Technical Service at (800) 624-8950 or (844) 856-1230, option 2.

Once the software is installed on the client server network and computers, configure IQmanager® for thin client operation as described in "Configuring for Client Server Networks".

### Thin Client Using COM Port Mapping

COM port mapping is a configuration in which Midmark IQspiro® and IQvitals® devices connect to a serial port on a client computer, and the server is configured so that logical COM ports on the terminal server are mapped to the physical COM ports of the client.

The non–Windows-based thin client terminal devices must be operating on a low-latency, high-speed network in order to use the serial port versions of Midmark IQspiro® and IQvitals® devices.

**Note**

In order for the COM port mapping solution to be used in a thin client environment, the hardware, software, and network must meet stringent performance requirements. System administrators should read Setup Manual: Midmark Products over Thin Client using IQpath™ or COM port mapping before installing, configuring, and using this software in a thin client environment using COM port mapping.

"Figure 2" illustrates the use of Midmark IQspiro® and IQvitals® devices within a thin client environment using COM port mapping:

![Figure 2](image.png)

To use this configuration, install IQmanager® on the terminal server, and configure the server to map to the COM port on the client terminal. System administrators should configure the terminal server for COM port mapping as described in Setup Manual: Midmark Products over Thin Client using IQpath™ or COM port mapping.

**Note**

IQpath only supports the USB Midmark ECG device. IQpath does not support the serial port version of the Midmark ECG.
Installation

Hardware and Software Requirements

This section describes the minimum computer resources and hardware components needed when using new Midmark devices and software. As it is the nature of technology to change often, these requirements will be evaluated and modified periodically. We suggest always referring to the most recent Minimum Computer Requirements document for your version of Midmark software can be found at www.midmark.com, or contact Midmark Technical Service at (800) 624-8950 or (844) 856-1230, option 2, for additional information.

Equipment Alert

IQmanager® has been tested for proper function with the Off-the-Shelf (OTS) Operating Systems (OS) listed below. Do not operate IQmanager® with an OS other than those listed. Future releases of currently approved OS should not be used until Midmark has conducted necessary performance tests with IQmanager®. Contact Midmark Technical Service before updating an OS.

Note

If you are updating existing computer systems currently being used with older Midmark devices and software, please contact Midmark Technical Service before doing so.

IQmanager® is a Microsoft® Windows® -based software package requiring approximately 500 megabytes (MB) of disk space when all options are installed. Additional disk space is required if diagnostic tests are stored on the local disk drive.

The computer that IQmanager® will be installed on must meet the following minimum system requirements.
## IQmanager Computer® Requirements

<table>
<thead>
<tr>
<th>Item</th>
<th>Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Operating Systems</strong></td>
<td>Windows® 10, Professional and Enterprise, 32-bit and 64-bit</td>
</tr>
<tr>
<td></td>
<td>Windows® 8, Professional and Enterprise, 32-bit and 64-bit</td>
</tr>
<tr>
<td></td>
<td>Windows® 7, Professional and Enterprise, 32-bit and 64-bit</td>
</tr>
<tr>
<td><strong>Hardware Requirements</strong></td>
<td>Windows® compatible personal computer</td>
</tr>
<tr>
<td><strong>CPU</strong></td>
<td>Intel® Core™2 Duo Processor E4300 (2M Cache, 1.80 GHz, 800 MHz FSB) (x86) or 64-bit (x64) processor or faster</td>
</tr>
<tr>
<td><strong>Disk</strong></td>
<td>2 GB of free disk space or greater</td>
</tr>
<tr>
<td><strong>Memory</strong></td>
<td>Minimum 2 GB of system memory</td>
</tr>
<tr>
<td><strong>Input/Output Ports</strong></td>
<td>Number of USB and Serial Ports required depends on the type of IQ digital devices to be connected to. Please refer to the specific product specifications.</td>
</tr>
<tr>
<td><strong>Pointing Device</strong></td>
<td>Windows® compatible mouse</td>
</tr>
<tr>
<td><strong>Keyboard</strong></td>
<td>Windows® compatible keyboard</td>
</tr>
<tr>
<td><strong>Display</strong></td>
<td>1024x768 or higher resolutions for the real time acquisition screen</td>
</tr>
<tr>
<td></td>
<td>16-bit color</td>
</tr>
<tr>
<td></td>
<td>Wide-screen (1680x1050) is highly recommended.</td>
</tr>
<tr>
<td><strong>Printer</strong></td>
<td>Microsoft Windows® compatible inkjet or laser printer</td>
</tr>
</tbody>
</table>

In addition, use of a hospital-grade surge protector for the computer system is recommended.

**Note**

*Some Midmark devices have additional system requirements. Please refer to the Operation Manual for specific Midmark devices (refer to “Related Documents”), or contact Midmark Support Services at (800) 624-8950 or (844) 856-1230, option 2.*
Software Installation

The Installation includes software for the installation and operation of IQmanager®. Before installing IQmanager® on the computer, it is important to understand and carry out the following tasks appropriately.

Screen Saver

The screen saver or any energy-saving feature should be disabled when you are installing software.

Installing IQmanager® and Bundled Software

If you are updating a version of IQmark Diagnostic Workstation earlier than version 4.0 and have ECG or Holter records to transfer to IQmanager®, the records must be archived first, to be restored after IQmanager® is installed. Uninstalling Version 4.0 or higher will not delete patient records or reports. When you are upgrading a version earlier than 4.0, upgrade to IQmanager 8.6.1 and restore the records before upgrading to version 10.0.0 or later.

WARNING

Uninstalling versions of the IQmark Diagnostic Workstation older than version 4.0 may automatically DELETE all patient records and reports. Contact Support Services at 1-844-856-1230, option 2, before installing IQmanager®.

Note

When you archive patient records, they should be archived to a temporary location other than the Brentwood folder. For more information, refer to “Save to File (Archive)”. To restore patient archives, follow the instructions in “Read Reports From File (Restore)”. 
If you are running Windows® 10, 8 or 7, log in as the administrator before proceeding. Contact the system administrator if you do not have this authority.

1. Launch the IQmanager® installer.
   - Double-click the IQmanager® setup file. The installation starts automatically.

   **Note**
   Close all programs before running the software installation. Once the installation program is initiated, it should not be interrupted until the installation has completed. The approximate installation time is five minutes. Always create a backup of the database before migrating data.

   **Note**
   If a previous version of IQmanager® has not been uninstalled, the system will prompt you to uninstall it. Follow the instructions on the screen to remove the previously installed version, and then begin again.

   - The program will begin the InstallShield Wizard for IQmanager.
   - Click Install to install pre-requisite applications.

   - Click Next to begin the installation process for the base IQmanager® component.
- At the license agreement window, select I accept the terms in the license agreement and click Next to continue with the installation.

- If desired, click Change… to change installation directory and then click Next to proceed with installation.
• If the IQmanager® software will be run in a standalone model:
  i. Place a check mark in SQL Server® 2012 Express and Midmark IQlicense® boxes, then click Next to proceed with installation.
• If the IQmanager® software will be run in a client/server model:
  i. Only place a check mark in SQL Server® 2012 Express and Midmark IQlicense® boxes on the server. If this is a client machine, ensure these boxes are unchecked. Click Next to proceed with installation.

**Note**
For more information on standalone vs client/server, refer to **Choosing between Standalone and Client/Server Setups** under **Technical Overview**

**Note**
**Multiple Computer Configurations** – SQL Server® 2012 Express is only required if the existing network environment is without an available SQL server. SQL Server® 2012 Express and Midmark IQlicense are only required to be install once per network. It is recommended that both applications are installed on a computer that is always on during operation, typically a computer designated as a server.
• Place a check mark in desired device plugin box and click **Next** to continue with installation.

• Click **Install** to begin the base IQmanager® component installation.
The following window will appear indicating that the base IQmanager® component has been successfully installed. Click **Finish** to complete installation.

2. If the **Midmark IQlicense®** component was selected for installation during step 1, reference the corresponding instructions notated in **Appendix C. – Licensing and Configuration.**

3. If the **IQecg®** plugin was selected for installation during step 1, follow the corresponding instructions listed below.
   - Click **Next** to begin the installation of the IQecg® plugin.
• At the license agreement window, select **I accept the terms in the license agreement** and click **Next** to continue with the installation.

• If desired, click **Change**... to change installation directory and then click **Next** to continue with installation.
• Enter in the name of the IQlicense® server, and then click Next to continue with installation.

• Click Install to begin the IQecg® plugin installation.
• The following window will appear indicating that the IQecg® plugin has been successfully installed. Click **Finish** to complete installation.

4. If the IQspiro® plugin was selected for installation during step 1, follow the corresponding instructions listed below.
   • Click **Next** to begin the installation of the IQspiro® plugin.
At the license agreement window, select **I accept the terms in the license agreement** and click **Next** to continue with the installation.

If desired, click **Change**… to change installation directory and then click **Next** to continue with installation.
• Enter in the name of the IQlicense® server, and then click Next to continue with installation.

• Click Install to begin the IQspiro® plugin installation.
5. If the IQholter® plugin was selected for installation during step 1, follow the corresponding instructions listed below.
   - Click Next to begin the installation of the IQholter® plugin.
At the license agreement window, select **I accept the terms in the license agreement** and click **Next** to continue with the installation.

If desired, click **Change…** to change installation directory and then click **Next** to continue with installation.
• Enter in the name of the IQlicense® server, and then click Next to continue with installation.

• Click Install to begin the IQholter® plugin installation.
The following window will appear indicating that the IQholter® plugin has been successfully installed. Click **Finish** to complete installation.

6. If the IQvitals® plugin was selected for installation during step 1, follow the corresponding instructions listed below.
   - Click **Next** to begin the installation of the IQvitals® plugin.
• At the license agreement window, select **I accept the terms in the license agreement** and click **Next** to continue with the installation.

• If desired, click **Change...** to change installation directory and then click **Next** to continue with installation.
• Enter in the name of the IQlicense® server, and then click Next to continue with installation.

• Click Install to begin the IQvitals® plugin installation.
7. If the SQL Server® 2012 Express component was selected for installation during step 1, reference the corresponding instructions notated in Appendix D – Database Installation and Configuration.

8. IQmanager® Database Configuration
   - Enter in the desired names into the Server Name and Database Name fields for the IQmanager® database.
   - If the IQmanager® software will be run in a standalone model:
     i. This will be the computer name you are installing the software on. This value should auto-populate in this field as long as this computer was not pointed to a different Midmark database in the past.
   - If the IQmanager® software will be run in a client/server model:
     i. This will be the name of the server that the database is installed on.
   - If using SQL Authentication, uncheck the Use Windows Authentication checkbox, enter in the appropriate SQL credentials into the Database Username and Database Password fields, then click Next to continue with configuration.
- If the database specified within the Database Name field does not exist, then click Yes to create.

- Enter in the file path or click Browse to specify the location for the IQmanager® report files to be saved.
  - If the IQmanager® software will be run in a standalone model:
    i. Use the Browse button to select a local folder on this computer.
  - If the IQmanager® software will be run in a client/server model:
    i. Browse or type in the name of the network folder located on the server (i.e. \Server\reports)

- Enter in the desired names into the Server Name and Database Name fields for the IQmanager® reports database.
  - If the IQmanager® software will be run in a standalone model:
    i. This will be the computer name you are installing the software on. This value should auto populate in this field as long as this computer was not pointed to a different Midmark database in the past.
  - If the IQmanager® software will be run in a client/server model:
    i. This will be the name of the server that the database is installed on. This is typically the same server that was entered for the IQmanager® database.
If using SQL Authentication, uncheck the **Use Windows Authentication** checkbox, enter in SQL credentials into the **Database Username** and **Database Password** fields, then click **Next** to continue with configuration.

If the database specified within the **Database Name** field does not exist, then click **Yes** to create.

And then click **Process** to begin database installation.

Click **OK** to complete the IQmanager® database installation.
9. Return to the desktop and double-click the IQmanager® icon to open the program.
Configuration

Introduction to Configuring IQmanager®

IQmanager® can be customized by using the configuration settings. Access the Configuration Settings by clicking the SETTINGS button in the upper right side of the IQmanager® opening screen.

Enter the practice’s name and details here. This information will also be displayed on printed reports. Enter a name that describes the practice/location to enable other medical personnel to recognize the origin of the reports.

From the Configuration Settings dialog box, the following settings can be changed:

- Full Patient Name Format:
- Short Patient Name Format:
- Language:
- Units:
- Date Format:
- Time Format:

The Thin Client Channel setting applies only if you are using IQmanager® in a thin client environment. The drop-down list contains the following selections:

- RDP: for using IQpath™ if the clients and servers are using Microsoft Terminal Services
- Citrix: for using IQpath™ if clients and servers are using Citrix® software

VMware VDI is supported in IQecg (v. 10.0.4), IQspiro (v. 10.0.4), and IQvitals (v. 11.0.3). As of these versions, the Thin Client Channel is no longer being used. The device software will auto detect whether Citrix, RDP, or VMware are being used.

Refer to Setup Manual: Midmark Products over Thin Client using IQpath™ or COM port mapping for more information.
Checking Auto start on one device will cause IQmanager to launch the device acquisition screen when only one device is listed under the device list for specific test. Selecting this setting will streamline the acquisition workflow. If you need to select Technician, Requested by, or Indication do not select, “Checking Auto Start on one device” to prevent bypassing that screen.

Once you have selected the configuration settings, click **Save** to save the settings.

Click **Cancel** to exit without making any changes, or click **Default** to restore all settings to the factory settings, except for Institution Name and Address.

**Data Management Tab**

The *Data Management* tab in the *IQmanager Configuration Settings* dialog box allows you to configure and manage various data storage locations.

From the Data Management tab, the following settings can be changed:

- **Database Settings**
  - **Midmark SQL Server Name:** The name of the server containing the database storing patient information and other IQmanager specific data, can be local or on the network. Microsoft SQL express is installed by default during the IQmanager® installation.
  - **Midmark Database Name:** The name of the database on the Midmark SQL Server.
  - **Login Credentials:** Select **Use Windows Authentication** or specify the SQL Database Username and Database Password.

- **Report Management Settings**
  - **Database Server:** The name of the server containing the database stores only report information; this server can be local or on the network. The reports are not stored here, just their location. See **Save Report Location** below. By default, this server uses the same database as Midmark SQL Server.
  - **Database Name:** The name of the database on the Database Server.
  - **Login Credentials:** Select **Use Windows Authentication**, or specify the SQL Database Username and Database Password.
  - **Save Report Location:** Specify the location where the Midmark reports will reside.
**List Management Tab**

The *List Management* configuration option customizes the lists used in IQmanager®, including:

- Medications
- Indications
- Race Categories
- User Names (The names of doctors and technicians performing and reviewing patient tests through IQmanager®)
- Health networks

Customizing these lists saves time when you are using them in the appropriate testing screens.

Select the item that you want to modify from the pull-down list.

- **Add**: Scroll to the bottom of the list to type the new value, or select the plus icon next to the drop-down to jump to the bottom of the list. After typing the value, press Enter to save you selections.
- **Edit**: To edit an existing item, select the statement and begin typing to edit the value.
- **Delete**: You can delete an existing item. Highlight the statement with the cursor, and then click the X button.
Devices Tab

The Devices tab allows you to view any installed device with customizable settings. You can select the Setting button to view the device settings.

Configuring IQvitals® for IQmanager®

IQmanager® can import blood pressure, pulse rate, temperature, pulse oximetry from IQvitals®, and weight from compatible digital scales.

1. Click the SETTINGS button in the upper right side of the IQmanager® opening screen. The IQmanager Configuration Settings dialog box appears.
2. Set the default settings to use for IQvitals® by selecting the Devices tab in the IQmanager settings.
3. Click the settings icon for IQvitals® to customize settings.
4. To modify scale setting, click the **Settings** button under **Scale Settings**

![Scale Settings](image)

- Highlight the chosen scale.
- If changes need to be made to the COM Port or Units of measure, change them from this screen.

**Note**

*If selecting the Health o meter® scale option the following window will appear after clicking the **Configure** button.*

5. Click the **Auto Detect** button, and then follow the instructions as prompted on the screen.

6. Click **OK** to save changes, and then click **Save** to save the IQvitals® settings. The system closes the window and opens the **IQmanager Configurations Settings** window.

7. In the **IQmanager Configurations Settings** window, click the back arrow in the top right to return to the IQmanager® Opening Screen.

**Configuring Other Midmark Devices**

For information on configuring other Midmark devices for IQmanager®, please refer to the devices’ individual operation manuals. See “**Related Documents**” for a list of possible manuals and associated part numbers.

**Updates Tab**

The **Updates** tab allows you to view any installed device that has pending updates. When updates are pending, a dot will appear on the IQmanager® Settings button and on the Updates tab, indicating that there is an action pending. You can click the **Update** button to begin the update process.

**Configuring Licensing**

See **Appendix C – Licensing and Configuration**
Working with Peer-to-Peer Networks

A peer-to-peer network usually consists of several PCs that run on Windows® 10, 8, or 7 operating systems, and that are connected by hardware in a local area network (LAN) configuration. In such a system, this product may be set up where one of the networked computers contains the central database that can then be accessed from the other PCs connected to the network.

Configuring for Peer-to-Peer Networks

After setting up a working LAN, set up a peer-to-peer network database:

1. Designate one of the computers in the network to host the central database. It is not necessary to install IQmanager® on this machine, but it is necessary to create certain folders and files. See Creating a Central Peer-to-Peer Database for additional information. However, if IQmanager® is installed on the computer that is to host the central database, then all of the necessary folders and files are established. It is not necessary to have IQmanager® running on the central database computer in order to provide access to the networked computers that are running IQmanager®; however, ensure that a SQL server is installed (Microsoft SQL Express is distributed with the IQmanager software) and the report folder is shared.

2. Make sure the drive that contains the central database and report folder is set up for shared read and write access to the report folder. To do this, open Windows Explorer on the central computer, right-click the designated report folder, and select Sharing. Verify or make appropriate changes. To save the changes, click Apply, and then click OK. Refer to the appropriate Microsoft operation manual for detailed instructions on using Windows.

3. Install IQmanager® on each computer that will access the central database. See “Software Installation”. During installation, specify the central computer for the database name and the path to the report folder.
Creating a Central Peer-to-Peer Database

Note
The drive that will contain the central report folder must be configured for full sharing on the network.

Note
Installing IQmanager® may require that the computer be restarted.

If IQmanager® has been installed on the computer designated as the central database, the database folders and files are already established. (See “Software Installation” for complete instructions.)

If IQmanager® will not be installed on the central database computer, it is necessary to set up the required software and folders for the central database.

1. Create a folder on the central database computer for the report location and then share the location with the network while also setting the appropriate security. See Configuring Peer-to-Peer Networks for more information.

2. Install and configure a SQL server. If IQmanager® is installed on the central database computer, then Microsoft® SQL Express will be installed as part of the default installation and will have the appropriate database tables created. If IQmanager® is not installed on the central database computer, the appropriate tables will be created when any of the computers on the LAN are configured with the central database location.

Setting Up the Peer-to-Peer Data Source

After installing IQmanager® on each network computer and establishing the central database (see steps 1 and 2 above), set up the data source for each computer. If the location was not specified during installation, follow these steps:

1. Open IQmanager®, the software should open directly to the Data Management tab on the Settings screen. If not follow the steps below to access the Data Management tab.
   a. Select the Settings icon in the top right.
   b. Select the Data Management tab

2. Set Midmark SQL Server Name and Database Server to the central database location. The Midmark Database Name is ‘IQmanager’ by default. The Database Name under Report Management Settings is ‘IQmanager Report’ by default.

3. Click Save.

Note
When IQmanager® is started again, it will connect to the specific database

Working with Client/Server Networks

Refer to Working with Peer-to-Peer Networks, as the steps for setting up and configuring a client/server environment is now the same as deploying a peer to peer network environment.
**Operation**

**Introductory Notes**

As a Windows-based application, many of the features in IQmanager® are interconnected and can be accessed from more than one screen. The top of each screen has a menu bar that lists other screens that may be accessed. To access any of these screens, click the appropriate button. This program is designed to be both user-friendly and flexible.

**Opening Screen**

When you start IQmanager®, the opening screen will appear.

The following table explains each button on the opening screen.

<table>
<thead>
<tr>
<th>Button</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>![Search Icon]</td>
<td>Search for patients previously entered into the database; selecting a patient from the list allows access to edit, add, and delete data from that patient's records; and to view data from previous tests.</td>
</tr>
<tr>
<td>![STAT Icon]</td>
<td>Acquire any STAT test before entering patient demographics or selecting a patient.</td>
</tr>
<tr>
<td>![NEW PATIENT Icon]</td>
<td>Register a <strong>New Patient</strong>. Refer to the appropriate device Operation Manual for a description of the patient details required for specific tests.</td>
</tr>
<tr>
<td>![CALIBRATE Icon]</td>
<td>Calibrate a Midmark device.</td>
</tr>
</tbody>
</table>
## Opening Screen Functions

<table>
<thead>
<tr>
<th>Button</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>VIEW PATIENT DETAILS</strong></td>
<td>View patient details from a patient selected from the <em>Search Results</em> screen.</td>
</tr>
<tr>
<td><strong>START TEST</strong></td>
<td>Go directly to the test selection screen for the selected patient, bypassing the <em>Patient Data</em> screen.</td>
</tr>
<tr>
<td>Gear</td>
<td>Enable users to configure the program to meet their needs. (See <em>Configuring IQmanager®</em> for more information.)</td>
</tr>
<tr>
<td>Information</td>
<td>Receive assistance regarding the use, operation, and troubleshooting of IQmanager® and other Midmark products.</td>
</tr>
<tr>
<td>Exit</td>
<td>Exit the program and return to the Windows desktop.</td>
</tr>
</tbody>
</table>

## Testing a New Patient

To create a new patient file, click the **New Patient** button on the *Opening* screen. This opens the *Patient Data Entry* screen, where you can enter the patient’s specific data.

![Patient Data Entry Screen](image)

**Note**

A patient name and DOB must be entered. It is highly recommended to enter all information available, including an ID.
Click in any text box or press the Tab key on the computer keyboard to enter information and move from field to field. Some information may not be essential for every test performed; however, it is important to complete each of these fields as accurately as possible. Each diagnostic test has its own patient data requirements, which may affect the computer-generated interpretation of the test; it is important to refer to each device’s Operation Manual when you are completing this screen.

The following table describes the Patient Data Fields.

<table>
<thead>
<tr>
<th>Field</th>
<th>Diagnostic Role</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient Information</td>
<td></td>
<td>Required fields: First Name, Middle Name, Last Name. Used for identification purposes. Letters and numbers may be used.</td>
</tr>
<tr>
<td>Date of Birth</td>
<td>Required</td>
<td>Used for information and diagnostic purposes in ECG and Spirometry. IQmanager® uses this data to calculate the age of the patient. The format may be changed in the Configuration Settings.</td>
</tr>
<tr>
<td>Gender</td>
<td>Required for ECG and Spirometry</td>
<td>Used for identification and diagnostic purposes in ECG and Spirometry.</td>
</tr>
<tr>
<td>Race</td>
<td>Required for Spirometry</td>
<td>Used for information and diagnostic purposes in Spirometry. From the pull-down menu, select one of the following: Unspecified, Caucasian, Black, Asian, American Indian, Hispanic, African-American, or African-European. If the patient’s race is not listed, not known, or the patient is of multiracial origin, select the race as identified by the patient.</td>
</tr>
<tr>
<td>ID #</td>
<td>Recommended</td>
<td>Used for identification purposes. Letters and numbers may be used.</td>
</tr>
<tr>
<td>Address</td>
<td></td>
<td>Used for identification and/or contacting purposes. Letters and numbers may be used.</td>
</tr>
<tr>
<td>Home Phone</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cell Phone</td>
<td>(Contact Info drop-down)</td>
<td></td>
</tr>
<tr>
<td>Work Phone</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Email</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Patient Data Fields

<table>
<thead>
<tr>
<th>Field</th>
<th>Diagnostic Role</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Smoking History</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Year Start Smoking</strong></td>
<td>Recommended for Spirometry (Smoking History drop-down)</td>
<td>For diagnostic purposes in Spirometry. Enables the operator to enter the patient’s smoking history.</td>
</tr>
<tr>
<td><strong>Year Quit Smoking</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cigarette/Day</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Risk Factors</td>
<td></td>
<td></td>
</tr>
<tr>
<td>History of Angina</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physical Activity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Resting ECG Status</td>
<td>(Risk Factors drop-down)</td>
<td>Used for informational and diagnostic purposes when interpreting test results. The information entered in this tab appears in the Patient Data Report.</td>
</tr>
<tr>
<td>• Hypertension</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• High Cholesterol</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Obesity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Diabetes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medical History</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pacemaker</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physician</td>
<td>(History drop-down)</td>
<td>Used for information purposes.</td>
</tr>
<tr>
<td>Referred By</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Facility</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medication(s)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Medications</td>
<td>Recommended for Resting ECG and Spirometry (Medications drop-down)</td>
<td>May be used as a diagnostic tool when you are interpreting test results.</td>
</tr>
<tr>
<td>• Dosage</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Frequency</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Click **Save** to store the data entered or edited in the *New Patient* screen in the database.

Click **Clear** to refresh the *New Patient* screen and remove all existing information that was entered or edited.

Click **Cancel** to exit the *New Patient* screen without saving any changes.

When you have completed entering information on the *Patient Data* screen, review all of the information to ensure that everything is accurate and up-to-date. Once you have confirmed the accuracy, proceed with a new patient test.
**Patient Details Screen**

The Patient details screen displays a summary report of the patient's data, showing the most recent information entered for the patient, including patient demographics, vital signs, history, medications, and a summary of the most recently performed diagnostic tests. This report can be printed or viewed on the screen. The section explains each item on the Patient Details screen.
**Edit Button**

The **Edit** button is a pencil icon located in the upper-right corner of the *Patient details* screen. You can use the **Edit** button when you want to add or update patient data.

![Patient Details Screen](image)

1. Click the **Edit** button.
2. Click **Upload** to add or update a profile picture for the patient.
3. Click in a Patient Data field to enter or edit data.
4. Click **Save** to save the changes made, or click **Cancel** to discard the changes.

**Note**

*Once a patient’s data is entered, it cannot be edited without clicking **Edit**.*
**Vitals Drop-down**

The **Vitals** drop-down provides a composite of the patient’s most recent day of data. If no vital signs have been entered, the title of the control group title reads **Vitals** and “0” summary number. If vital signs have been previously entered, the control group title will display the date of last vitals update, and the summary number will display the number of vitals data points entered.

![Vitals Drop-down](image)

**Note**

*BMI (Body Mass Index) cannot be entered manually. This is calculated when the patient’s height and weight are entered. BMI = W/H² (Metric). The World Health Organization measures BMI over 25 to be overweight, and over 30 to be obese.*

Click **New Vitals** to acquire new Vitals Signs from the IQvitals® device. Click **Manual Entry** to type the patient’s vitals.

The Vitals tab always displays coalesced vitals from the last day the vitals was acquired. Weight and Height are the only values that will be pulled from previous days if that information is missing in the newest vitals entry. When this occurs, IQmanager® will denote the day that the vitals were last entered by using asterisks (* and **).
Using a Weight Scale and Vital Signs Monitor Interface

If a digital scale is connected to the PC, you can automatically read the patient’s weight by clicking **New Vitals** and selecting the correct device from the list.

Follow these steps:

1. Prior to performing the test, make sure that the weight scale is powered on and connected to the appropriate port.
2. a) For Midmark 625 Scale, the Midmark IQscale™ Control Panel will appear:
   - Press the **Zero Scale** button before the patient sits on the exam table.
   - Have the patient sit on the exam table.
   - Press the **Weight** button to acquire the weight data.
   - Click the **Save** button to transfer the weight data into IQmanager®.
   b) For non-Midmark scales, the Scale Control Panel will appear.
3. Have the patient stand on the scale.
4. Click **OK** after the weight measurement has stabilized. The weight will be displayed in the weight field of the **Vital Signs** tab.

If you are using a vital signs monitor (IQvitals®), prior to accessing the acquisition screen, make sure that the IQvitals® or IQvitals® PC and the weight scale are operating and connected to the correct communication port. Select **New Vitals** then select the IQvitals® device from the list.

The IQvitals® device will acquire blood pressure, pulse, and temperature. Follow these steps:

- Place the blood-pressure cuff on the patient.
- To start a blood pressure measurement, click the appropriate blood pressure inflation rate button.
- Attach the SpO₂ on the patient’s finger, and place the temperature probe in the patient’s mouth.

Refer to the IQvitals® or IQvitals® PC Operation Manual for additional information.

After all the readings are displayed on the screen, click **SAVE** to store this information in the patient’s record.
**Smoking History Drop-down**

The *Smoking History* drop-down displays the patient’s current smoking history. The summary window has the following options:

- **Y** - yes a smoker
- **N** - not a smoker
- **0** - no history on record

![Smoking History Drop-down Image]

- Select the year the patient started smoking from the *Year Start Smoking* drop-down, or select *Not a Smoker*, if the patient is not a smoker.
- If the patient has quit smoking, select the year the patient quit from the *Year Quit Smoking* drop-down. If the patient has not quit smoking, select *Have Not Quit* from the drop-down.
- Enter the number of cigarettes the patient smokes per day in the *Cigarettes/Day* field.

**Medications Drop-down**

The *Medications* drop-down displays the current medications assigned to the patient. The summary windows include the following options:

- **0** - no history on record
- **#** - corresponding to the number of medication entries

![Medications Drop-down Image]
To add a medication, fill out the following three categories:

- **Medication**: Most standard medications can be selected from a drop-down menu. Unlisted medications can be added by entering in the information in the *Medication* List Management section in IQmanager® Settings.
- **Dosage**: Enter the prescribed dosage the patient is taking in the *Dosage* text box.
- **Frequency**: Enter the number of times the dosage is taken in the *Frequency* text box.

When you have entered the information about the first medication, click to add the next medication.

To modify, or delete the patient’s medication data click .

**Contact Information Drop-down**

The *Contact Information* drop-down provides the patient’s address, phone numbers, and email address. The summary window has the following options:

- 0 - no history on record
- # - corresponding to the number of contact entries (max: 5)
**Medical History Drop-down**

Selecting the Medical History drop-down on the Patient Details screen enables the operator to select from a number of common conditions that may play a role in the physician’s diagnosis. The summary window has the following options:

- 0 - no history on record
- # - corresponding to the number of history entries (max: 5)

• Type any pertinent medical history in the Medical History text box.

• The Medical History drop-down contains additional fields to add descriptive information regarding the patient, including Pacemaker, Physician, Referred By, and Hospital. Each category uses the lists created in List Management.

The Pacemaker field in the History tab are informational only and do not affect the automatic ECG interpretation. If the patient has a pacemaker, enter a description of the pacemaker type in the Pacemaker text box.
**Risk Factors Drop-down**

The *Risk Factors* drop-down lists possible diagnostic factors for the physician’s use, including *History of Angina*, *Physical Activity*, *Resting ECG Status*, *Hypertension*, *High Cholesterol*, *Obesity*, and *Diabetes*. Each category uses the lists created in **List Management**. The data is informational only, and will not affect the program’s diagnostic results. The summary window has the following options:

- 0 - no history on record
- # - corresponding to the number of risk factors entered (max: 7)
### Patient Details Screen, Button Bar

The buttons available at the top of the *Patient Details* screen offer a variety of functions.

If a button is grayed out, it is disabled. Active and disabled buttons change from screen to screen.

<table>
<thead>
<tr>
<th>Button Icon</th>
<th>Function(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>NEW TEST</strong></td>
<td>Opens the test selection screen. Note: Vitals is only available from the <em>Vitals</em> drop-down under <em>New Vitals</em>.</td>
</tr>
<tr>
<td><strong>VIEW</strong></td>
<td>Opens the selected report.</td>
</tr>
<tr>
<td><strong>COMPARE</strong></td>
<td>Compares or shows trend for the selected reports. Use the Ctrl function on your keyboard to select multiple reports. Not all report types can be compared or trended.</td>
</tr>
<tr>
<td><strong>EXPORT</strong></td>
<td>Exports the selected report as a Car file, PDF, or other file type, depending on what the device supports.</td>
</tr>
</tbody>
</table>

**Note**

*In order to open and view the PDF reports, a PDF reader, like Adobe Acrobat Reader must be installed. If Acrobat Reader is not installed on the computer, visit:* [http://www.adobe.com/downloads/](http://www.adobe.com/downloads/).
Reviewing Patient Reports

Patient reports can be managed effectively with IQmanager®. All reports for a specific patient are listed on the Patient Details screen.

IQmanager® will search for the patients by Last Name, First Name, DOB, or Patient ID. The search results will be displayed in the Search Results section of the Opening screen.

The information on this screen can be sorted by Name, DOB, or Patient ID. An arrow next to the column name indicates that the patients are sorted by that criterion. Re-sort the list by clicking the name of a different column. To reverse the order, click the column name a second time.

If you know the patient’s name, DOB, ID, or a combination of this information, you can quickly locate the patient by typing the information in the search field at the top of the screen. IQmanager® will search the database as the information is typed in, updating the Search Results information, and displaying a drop-down showing the most recently accessed patient that matches the criteria being typed. If the desired patient is displayed in this drop-down, use the mouse or arrow keys to select the patient and pull up the patient data screen.

If no matches are found, the screen will display the message ‘No Results found for the search criteria”. If the search retrieves a match, it will display the search results. To select and view a specified patient’s data, double-click anywhere on the row containing the patient’s name. You can also select the data by clicking on the patient name once and then clicking View Patient Details, selecting View or bypassing the patient’s data and launch the testing screen by selecting Start Test.

You can display all reports for all patients from the Opening screen. To do so, click Report History located beneath Search Results on the Opening screen.

The Report History screen lists the patients and tests that were performed using IQmanager®. The Report History screen provides patient and test information, such as patient name, date and time of each test report type, requestor, reviewer, and signed-by name. Use the horizontal scroll bar to view other information.
To sort the information by any of the columns, click the title of the column. When a column is selected, the system will place an arrow next to the title and sort the reports by that column. To reverse the sort, click the title again the sort order switches between top to bottom, and bottom to top.

Use the Filter Reports options to display reports given during a select time period:

- **Previous Month**: Displays reports done the previous month.
- **Show Today**: Displays reports prepared on the date displayed by the computer calendar.
- **Show All**: Displays all reports from the earliest date. (This is the default setting.)
- **Show Date**: Indicates a range of time using the date fields. (See the Note below.)
- **Requested By**: Select specific requestor or leave default for All.
- **Reviewed By**: Select specific reviewer, not reviewed, or leave default for All.
- **Signed By**: Select specific signor, not signed, or leave default for All.
- **Report Type**: Select one, multiple, or All report types.

**Note**
The From date box will not accept dates before 01/01/1970.

### Reviewing Reports for One Patient

Open the Patient Data screen. See “Reviewing Patient Reports” for more information.

The reports are listed on the right hand side of the screen in the Report History section. The reports in this section can be filtered by type, reviewed status, and signed status.

Each Report card contains the type of test, date and time the test was done, the reviewed and signed status, and the interpretation.

**Note**
You can select multiple reports while displaying the Report List and Patient Data screens, by clicking the desired reports while holding down the Control (Ctrl) key.
Send Selected Reports by Email

You can send patient reports to another physician via email if the computer has Internet access and an email account.

Note
The email recipients must have IQmanager® installed on their PCs in order to view patient reports in CAR file formats, or Adobe PDF Reader to view reports in PDF formats.

To send a report by email:
1. Select the file.
2. Click Export and save the selected reports to a common location, as CAR files, or other supported format.
3. Access the location where the files are saved, and then attach the appropriate file to your email.

Receiving Reports through Email

When you receive an email with a patient report attached, double-click the attachment or report icon to retrieve the report. When you are prompted to save or open the file, select Open. IQmanager® will start, display the report, and save it in the Report Review screen.

Note
The format and operation of email depends on the Internet Service Provider (ISP) and the email service that are being used. Please refer to ISP's or email provider's Help guide for details.

Acquiring Vital Signs Data

1. To access the Vital Signs Data screen from the IQmanager® Opening Screen, click New Patient.

2. To search for an existing patient. As you type, an auto complete box is displayed.

3. Your search results are displayed in the Search Results section. Click View to view the record, or click Start Test to begin the test. Click the View link.

4. This screen displays when you click View from the previous screen.
   Note: Clicking on the window borders and dragging can resize the screens.

5. From the Patient Data screen, below the Vitals section on the left, click New Vitals to acquire from the IQvitals or click Manual Entry to type in the vitals.
See “Patient Details Screen, Button Bar” for a complete explanation.
## Appendices

### Appendix A - Screen Summary

<table>
<thead>
<tr>
<th>Screen Name</th>
<th>Screen Summary</th>
<th>Main Functions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Opening screen</td>
<td>Access the main functions of IQmanager®</td>
<td>• Access Search screen</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Access Search Results</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Access Report History</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Configure IQmanager®</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Access Help</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Exit to Windows desktop</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Run a Stat test (if appropriate Midmark device)</td>
</tr>
<tr>
<td>Patient Details screen</td>
<td>Enter patient information including name, ID, medications, and smoking and</td>
<td>• Enter patient data</td>
</tr>
<tr>
<td></td>
<td>medical history.</td>
<td>• Edit data for an existing patient</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Initiate a test for a patient</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Access a previously saved test for review</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Initiate a test for the patient</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Select a report to view</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Filter report list by test type, dates, and/or reports that have not been</td>
</tr>
<tr>
<td></td>
<td></td>
<td>reviewed</td>
</tr>
</tbody>
</table>

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Appendix B - Troubleshooting Guide

This Troubleshooting Guide provides a list of solutions or recommendations for situations that may be encountered with IQmanager®. Before calling Midmark Support Services, please refer to the following table for help. Error messages may be displayed at the center or at the bottom-right corner of the screen.

**Note**
For errors that occur during patient testing with a Midmark device, please refer to the Troubleshooting section in the corresponding device's Operation Manual (IQecg®, IQholter®, IQspiro®, or IQvitals®).

<table>
<thead>
<tr>
<th>Error Message or Problem</th>
<th>Solution or Recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Email recipient receives patient report as scrambled text.</td>
<td>The file format is associated with the incorrect program.</td>
</tr>
<tr>
<td></td>
<td>• PDF files must be opened using Adobe Acrobat or Acrobat Reader.</td>
</tr>
<tr>
<td></td>
<td>• CAR files must be opened with IQmanager®.</td>
</tr>
<tr>
<td></td>
<td>• JPG files may be opened with any graphics application.</td>
</tr>
<tr>
<td>FAILED TO CREATE EMPTY DOCUMENT</td>
<td>All Windows programs must be closed before installing IQmanager®.</td>
</tr>
<tr>
<td>Message appears immediately after initial software installation and thereafter each attempt to start IQmanager®.</td>
<td>• Uninstall IQmanager® (See “Software Installation”).</td>
</tr>
<tr>
<td></td>
<td>• Restart the computer.</td>
</tr>
<tr>
<td></td>
<td>• Close and exit all Windows programs.</td>
</tr>
<tr>
<td></td>
<td>• Reinstall IQmanager® (See “Software Installation”).</td>
</tr>
<tr>
<td>THE HOLTER APPLICATION IS NOT INSTALLED.</td>
<td>In order to perform a Holter scan, or print or fax the report that was created, the Midmark IQholter® program must be installed on the same computer used for printing and/or faxing.</td>
</tr>
<tr>
<td>Message appears when attempting to run, print, or fax a Holter report.</td>
<td>• Please contact a Midmark Sales Representative for information on Holter products.</td>
</tr>
<tr>
<td>THE [test] REPORT DATED [test date] FOR [patient name] IS IN USE BY [network computer name] or THIS PATIENT’S RECORD IS IN USE BY [network computer name]</td>
<td>The Report Locking feature prevents more than one operator from accessing the same report at the same time, specifically in a LAN environment where different computers are sharing a central database. Report locking can also be caused by the user improperly exiting the patient report from any computer.</td>
</tr>
<tr>
<td>Message appears when trying to open a specific test report/patient data screen.</td>
<td>• Close the test report or patient data screen by using Review Exit or Exit.</td>
</tr>
<tr>
<td>Error Message or Problem</td>
<td>Solution or Recommendation</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>---------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>All other operational problems.</td>
<td>• Please refer to the online help by clicking Help</td>
</tr>
<tr>
<td></td>
<td>• Troubleshooting for a device may be found in that device’s Operation Manual</td>
</tr>
<tr>
<td></td>
<td>• Contact Midmark Support Services at (800) 624-8950 or (844) 856-1230, option 2.</td>
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</table>
Appendix C – Licensing and Configuration

Installing Midmark IQlicense Server Software

First, decide where to install the Midmark IQlicense server software. The Midmark IQlicense server can be installed on an existing workstation/server. The platform can be Windows® 10, 8, 7; or Windows® Server 2012 or 2008. The Midmark IQlicense server must have access to the Internet in order to activate the license file from MOS (Midmark Operation Server), and the server must be reachable from the workstation/server where you installed the IQmanager® software, it can even be the same computer.

Follow these steps:

1. In the IQmanager Installation package, open the Server Software folder. Open the IQlicense folder.
2. Launch the setup file, and follow the on screen prompts.
   - Click Next to begin the installation of the IQlicense® software.
   - At the license agreement window, select I accept the terms in the license agreement and click Next to continue with the installation.
- If desired, click **Change…** to change installation directory and then click **Next** to continue with installation.

![Image of the Destination Folder window where the installation directory is C:\Program Files (x86)\Midmark\Midmark IQLicense\]

- Click **Install** to begin the IQlicense® software installation.

![Image of the Ready to Install the Program window]

- The following window will appear indicating that the IQlicense® software has been successfully installed. Click **Finish** to complete installation.
License Activation and configuration

1. To activate the license, launch the **Server Activation Utility** from the Windows® Start Menu > Programs > Midmark IQlicense Server program group.

2. Once the **Server Activation Utility** is displayed, enter the **Activation ID**. Under “Count,” enter the number of licenses that have been purchased, and then click the **Activate** button.
3. Navigate to Programs > Click Midmark IQlicense, then right click Start Midmark IQlicense, then click on Run as Administrator. The DOS prompt will state that the service has started successfully. Press any key to close the screen.
**IQlicense® Technical Overview**

Midmark IQmanager

LAN

Midmark IQlicense Server

WAN

Midmark Operation Server (MOS)
Appendix D – Database Installation and Configuration

Installing SQL Server 2012 Express

Microsoft® SQL Server® 2012 Express is a powerful and reliable free data management system that delivers a rich and reliable data store for lightweight Web Sites and desktop applications.

**Note**
SQL Server 2012 Express is only required if the existing network environments is without an available SQL server.

**Note**

1. On the License Terms window, place a check mark in the **I accept the license terms box**, and then click **Next** to continue with the installation.

2. If desired, click ... to change the SQL installation directories and then click **Next** to continue with the installation.
   a. SQL Server Replication and SQL Client Connectivity SDK are NOT needed. Only **Database Engine Services** are required.
3. If desired, change the name listed within the Named instance field, then click **Next >** to continue with the installation.
4. Click **Next** to continue with the installation.

5. Click **Mixed Mode** and specify the password for the SQL Server system administrator (sa) account within the password fields, then click **Next >** to continue with installation. For **Windows Authentication**, see note below.

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**Note**

6. Click **Next >** to begin installation.
7. Click **Close** to complete installation.

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**Network Database Configuration - IQmanager**

1. Enable Shared Settings Mode
   - Open the **IQinterface.exe.config** file with a text editor (i.e. notepad)
     - C:\Program Files (x86)\Midmark\IQmanager\IQinterface.exe.config
   - Set the **SettingsRootFolder** value to the **network folder** where the settings are to be stored.
   - Set the **UseSharedSettings** value to **true** within the **appSettings** subsection of the file.
     - Example Formatting:
       ```xml
       <appSettings>
       <add key="ConfigurationRootFolder" value=""/>
       <add key="SettingsRootFolder" value="\servername\settings"/>
       <add key="UseSharedSettings" value="true"/>
       <add key="CARFileFolderSource" value="/MidmarkApps\IQInterface\Images"/>
       <add key="CARFileFolder" value="/TOBUILDSYSTEM\Reports"/>
       <add key="GECentricityCARFileFolder" value="C:\temp"/>
       <add key="ClientSettingsProvider.ServiceUri" value=""/>
       </appSettings>
       ```

2. Copy the **IQinterface.exe.config** file into all the machines which are going to be sharing the settings. Alternatively, open the **IQinterface.exe.config** file on each computer and manually change the settings values previously explained.

3. Once this is done the database and report file location may have changed. On any computer that has the updated **IQinterface.exe.config** file, open **IQmanager**, go to **Settings** and ensure the database and report path are still correct.
   - Ensure the correct **Midmark SQL Server Name** under **Database Settings** and **Database Server** under **Report Management Settings**.

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Ensure the Report Management Settings has a network share file path for Save Report Location (.CAR files).

Note
Ensure this location is accessible by all client computers.
Network Database Configuration – SQL Server 2012 Express Configuration

Note
If using SQL Server 2012 Express, the TCIP/IP Network Protocol will be disabled by default. It will need to be enabled and configured. For additional details regarding port configuration.

1. Enable and configure the TCP/IP Network Protocol from the SQL Server Configuration Manager.
   a. Open the SQL Server Configuration Manager
      i. Start > All Apps > Microsoft SQL Server 2012 > SQL Server Configuration Manager
   b. Enable the TCP/IP Network Protocol
      i. SQL Server Network Configuration > Protocols for SQLEXPRESS > Right click TCP/IP protocol > click Enable
      ii. Click OK to acknowledge warning message regarding stopping/restarting service in order for changes to take effect
c. Configure the TCP/IP Network Protocol
   i. SQL Server Network Configuration Manager (Local) > Protocols for SQLEXPRESS > Right click TCP/IP protocol > click Properties

   ii. From the IP Addresses tab, disable TCP Dynamic Ports for all IP addresses by making sure the corresponding fields are left blank
iii. Specify a fixed TCP Port by specifying a value of “1433” for the corresponding field.

iv. Click **OK** to save configuration changes.

v. Click **OK** to acknowledge warning message regarding stopping/restarting service in order for changes to take effect.
2. Restart SQL Server Service
   a. Open the SQL Server Configuration Manager.
      i. Start > All Apps > Microsoft SQL Server 2012 > SQL Server Configuration Manager
   b. Restart the SQL Server service.
      i. SQL Server Services > Right click SQL Server (SQLEXPRESS) name > click Restart
Warranty Information

For help diagnosing problems with this product by phone, contact Midmark Support Services at (800) 624-8950 or (844) 856-1230, option 2, between 5:00 AM to 5:00 PM, Pacific Time.

To contact Midmark Support Services via email: techsupport@midmark.com

Self-help knowledge base and live chat can be accessed at: kb.midmark.com

Warranty

Midmark warrants to the original retail purchaser that it will repair or replace software contained within the IQ brand products manufactured by Midmark for a period of 12 months. Midmark does not warrant that the software: (1) is error free; (2) can be used without problems or interruptions; or (3) is free from vulnerability to intrusion or attach by viruses or other methods.

Please refer to midmark.com for the full and current Warranty Terms and Conditions.

Return Materials Authorization

To return any product for repair, a Return Materials Authorization (RMA) number must be obtained from Midmark Support Services. This RMA number should be referenced on the package(s) containing the items to be returned and in any correspondence regarding the return.

Shipping

Before shipping any unit to Midmark, be certain that an RMA number has been issued and that all guidelines regarding this authorization are followed. We highly recommend following all guidelines for the shipment of medical products set forth by the shipping company used. If a question should arise regarding the appropriate method of shipment, please feel free to ask when calling for an RMA number. It is ultimately the responsibility of the customer when shipping a product to ensure that all packages and their contents get to Midmark safely. Midmark will not assume responsibility for damage due to improper packaging, shipment or product use. Such actions will void all applicable warranties.